



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,538	02/12/2001	Song Wu	TI-30624	1495
23494	7590	12/02/2004	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			TON, ANTHONY T	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2661	

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/782,538

Applicant(s)

WU, SONG

Examiner

Anthony T Ton

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-23 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


PHIRIN SAM
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Term “symbol **interface**” in page 18 line 12 is improper.

Examiner suggests changing this term to “symbol **interference**”.

Appropriate correction is required.

Claim Objections

2. **Claims 1 and 13** are objected to because of the following informalities:

a) **In claim 1:** term “**an media**” in line 4 is improper.

Examiner suggests changing this term to “**a media**”.

b) **In claim 13:** term “**said apparatus**” in line 2 is improper.

Examiner suggests changing this term to “**said method**” to incorporate with term “a method” recited in line 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. **Claims 1-12** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2661

5. **Claims 1 and 4** are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are:

The limitation “**a keyed data signal**” in Claim 1 lines 5 and 6; in Claim 4 lines 2, 3 and 4, is not adequately disclosed by the Applicant’s specification. There is no such a keyed data signal has been disclosed in the specification.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 4, 5 and 8-10** are rejected under 35 U.S.C. 102(e) as being anticipated by *Verbin et al.* (US Patent No. 6,411,657) hereinafter referred to as *Verbin*.

a) **In Regarding to Claim 1:** *Verbin* disclosed an apparatus for transceiving a data signal compliant with HomePNA 10M8 technology in an Open System Interconnect network, said apparatus comprising:

a transmitter having an input for coupling to a media access control device for receiving a data signal to be transmitted and operably configured to convert said data signal to an encoded signal (*see Fig.1: transmitter 20; encoder 22*), said transmitter further operably configured to filter and digitally modulate said encoded signal compliant with HomePNA mask requirements

Art Unit: 2661

(see Fig.1: 25, 26, 27, 29 and 31; and see col.7 line 14 – col.8 line 58: PSD mask filter) and output said filtered and digitally modulated signal to a first analog front-end device for transmission to a shared medium (see Fig.1: AFE 35 at the transmitter 20, and a link between the transmitter 20 and receiver 40); and

a receiver having an input for coupling to a second analog front-end device for receiving a HomePNA data signal from said shared medium and operably configured to digitally demodulate, filter and decode a pay-load portion of said HomePNA data signal (see Fig.1: receiver 40, AFE 35, 37, 32, 45, 38 and decoder 42; col.4 lines 29-45: Home Phone Networking Association; and col.10 lines 5-7: decoder 42).

b) In Regarding to Claim 4: Verbin further disclosed said transmitter further includes an encoder having an input for receiving said data signal and operably configured to encode said received data signal into mapped symbols at a rate defined in a pay-load portion of said data signal (see Fig.1: encoder 22; Figs.2A and 2B; and col.8 lines 44-58: the sampling rate to be from 0 to 0.5).

c) In Regarding to Claim 5: Verbin further disclosed said transmitter further includes an asymmetrical finite impulse response (FIR) filter having an input for receiving said encoded signal from an output of said encoder and an output for outputting a base-band complex signal (see Fig.1: 26 and 28 and col.9 lines 21-32: FIR).

d) In Regarding to Claim 8: Verbin further disclosed said second analog front-end device having an input for coupling to said shared medium and operably configured to sample and filter said HomePNA data signal (see Fig.1: AFE 35 at the receiver 40), and having an

Art Unit: 2661

output for coupling to said receiver for outputting a pass-band signal responsive to said received HomePNA data signal (*see col.9 lines 33-39 and col.4 lines 29-45: HPNA*).

e) **In Regarding to Claim 9:** *Verbin* further disclosed said receiver further includes a digital demodulator having an input for receiving said pass-band signal and operably configured to down-convert said pass-band signal to a base-band signal (*see col.10 lines 1-7: device 38*).

f) **In Regarding to Claim 10:** *Verbin* further disclosed said receiver further includes a raised-cosine filter having an input for coupling to an output of said digital demodulator for receiving said base-band signal, and operably configured to filter down-converted noise from said base-band signal (*see col.7 line 20-30: a shaper 29 applies square root raised-cosine shaping to filtered symbols*).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 2, 3, 6 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Verbin et al.* (US Patent No. 6,411,657).

a) **In Regarding to Claims 2 and 3:** *Verbin* disclosed all aspects of these claims as set forth in claim 1.

Verbin failed to explicitly disclose claimed subject matters: said first analog front-end device and said second analog front-end device are included in a single analog front-end device; and said transmitter and said receiver are integrated in an application specific integrated circuit.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to implement such claimed subject matters throughout the apparatus of *Verbin* as a design choice, the motivation being to transmit and receive communication data to and from a transmitter and a receiver more reliable and save space for other packaging purposes (*see Verbin: col.10 lines 8-23*). Therefore, it would have been obvious to implement such claimed subject matters with *Verbin* in the invention as specified in the claims.

b) In Regarding to Claims 6 and 7: *Verbin* disclosed all aspects of these claims as set forth in claims 1 and 5; and

Verbin further disclosed a digital modulator having an input for receiving an output signal from said FIR filter and operably configured to modulate said FIR filter output to a real pass-band signal (*see Fig.1: 24*); and

a notch filter having an input for receiving said real pass-band signal and operably configured to produce a frequency notch (*see Fig.4B; and col.9 lines 21-32: notch filtering*).

Verbin failed to explicitly disclose a real pass-band signal centered at approximately 7 MHz; and a frequency notch at approximately 7 MHz.

At the time of the invention, it would be obvious to a person of ordinary skill in the art to implement such a real pass-band signal centered at approximately 7 MHz; and a frequency notch at approximately 7 MHz throughout the transmitter of *Verbin* as a design choice because any frequency can be obtained by a person of ordinary skill in the art, the motivation being to filter

Art Unit: 2661

out any un-wanted frequencies as well as noise (*see Verbin: col.2 lines 48-59*). Therefore, it would have been obvious to implement such claimed subject matters with *Verbin* in the invention as specified in the claims.

Allowable Subject Matter

10. **Claims 11 and 12** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. **Claims 11 and 12** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. **Claims 13-23** are allowed.

Examiner Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is **571-272-3076**. The examiner can normally be reached on M-F: 8:30 am - 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Ken Vanderpuye** can be reached on **571-272-3078**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2661

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

by : 
Anthony T. Ton
Patent Examiner
November 16, 2004


PHIRIN SAM
PRIMARY EXAMINER